

The Process of Evolution

lesson •1 Natural Selection page 59

2. Describe the location of the Galápagos Islands.

Galápagos islands are separated from the mainland of South America by 1000 km.p.59 (paragraph 2)

3. Conclude Why do you think the tortoises of the Galápagos Islands varied from island to island?

The tortoises varied from island to island in predictable ways, such as shell shape and neck length.Darwin began to think that the varied tortoise species on the islands had evolved from a single tortoise species from the mainland.

Commented [1]: Where is your citation?

5. Determine What is the expected result from selective breeding? (Circle your answer.)

a. a new species

b. specific characteristics

In animals, farmers want the largest hog, the fastest horse, or the cow with the most milk. When a plant or an animal is bred to get specific characteristics.p.61(paragraph 2)

6. Explain How a trait becomes part of a Population?

Sometimes changes occur in the genes and new traits are created. If the inherited trait is harmful, the offspring might die. If the inherited trait is helpful, the offspring might survive long enough to reproduce. With time, the helpful trait will become common in many populations of the species.p.62 (paragraph 2)

7. State Which organisms have a better chance to survive?

Darwin suggested that those organisms best prepared for living in specific habitats would survive and be most able to reproduce. Offspring would also be able to survive any changes to their habitat. With enough time, being able to adapt to change could explain the large number of species on Earth today.p.62(paragraph 4)

Commented [2]: Very good!

9. Explain What did Darwin propose that all organisms share? (Circle your answer.)

a. common age

b. common ancestors

Darwin also developed the idea that all organisms have “descended with modification” from common ancestors over a long period of time. That is, all species have changed through time and are related by descent from a common ancestor.p.63(paragraph 3)

Lesson • 2 Adaptation and Extinction

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2. Predict What do you think will happen to a long-eared population of rabbits if their environment gradually becomes cold?

The long-eared rabbits population will decrease because long-eared rabbits won't be able to survive in cold weather. Because they give off heat through the extensive system of blood vessels in their ears.

Desert rabbits also have long ears that help them stay cool. They give off heat through the extensive system of blood vessels in their ears.p.65 (paragraph 2)

3. Compare Which of the following organisms is best camouflaged for living in Antarctica? (Circle your answer.)

a. a seagull

b. a parrot

Because a seagull is white in color. It is best ~~to~~ camouflaged with Antarctica.

Commented [3]: Where is your citation?

4. Identify What is another name for behavioral adaptations?

Behavioral adaptations depend on the actions of the organism. Scientists sometimes call behavioral adaptations instinct or inborn behaviors.p.66(paragraph 2)

5. Determine How do humans contribute to loss of habitat?

One important reason is that habitats for plants and animals are becoming smaller as humans develop the land and use more resources. An example of this is the habitat of the cheetah, a large cat found in Africa. With more humans living on and using more land for crops, there are fewer resources available for the cats and their natural prey. Under such conditions, fewer cheetahs can survive.p.67(paragraph 1)

6. Define What term do scientists use to describe a species with little genetic variation?

Genetic variability can be measured by all the gene combinations found in a species. Species need genetic variability to increase the likelihood that some individuals will have the right gene combinations to survive different environmental conditions. Evolution occurs when there is genetic variability.p.67(paragraph 3)

Commented [4]: This is a better response for this question (see below). The term is (threatened or endangered).

If there are only a few individuals, or if the individuals have limited genetic variability, a major change in environmental conditions can lead to extinction. A species is considered threatened or endangered if there is little genetic variation left among the members of a species. (3, p. 67)

7. Identify What are the results of inbreeding?

Inbreeding is mating between closely related individuals. This happens in small populations. Inbreeding results in a lack of genetic variability.p.68(paragraph 1)